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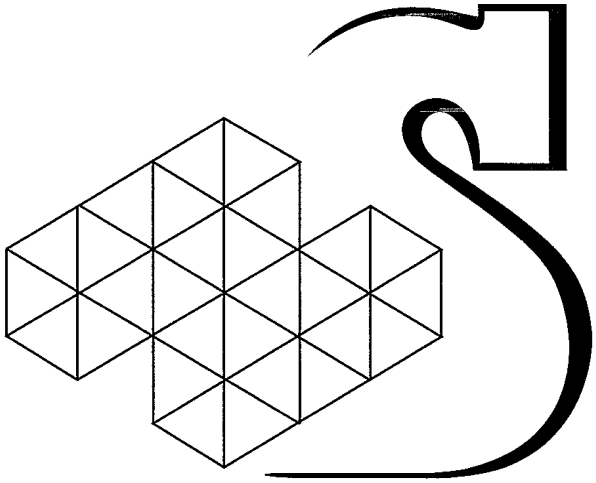

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# Situation Awareness System Preliminary User Trial

# TRIAL PLAN

**Contract no. W7711-7-7404/001/SRV**
**Order No. 7404-09**

**March 1999**

DCIEM No CR 1999-063

# Situation Awareness System
# Preliminary User Trial
# Trial Plan

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Call up against Standing Offer
PWGSC Contract No. W7711-7-7404/001/SRV
Order No. 7404-09

On behalf of
DEPARTMENT OF NATIONAL DEFENCE

As represented by
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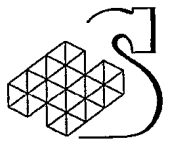
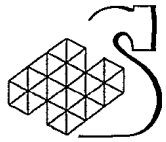
**March 1999**



# Executive Summary

This report outlines the approach, schedule and responsibilities for a preliminary user trial of the Situation Awareness Module (SAM) of the Situation Awareness System (SAS) during a battle group training exercise to be conducted in Gagetown 1-9th May 1999. Training is the main priority for the exercise and all data capture for this trial must fit in with that priority. Fourteen SAM systems and 26 Precision Lightweight Global Positioning System Receivers (PLGR) will be distributed within the unit command structure. The main focus of the trial will be on ease of use and usefulness of SAM. Observers will be teamed in pairs, one pair attached to battle group HQ and to each of two combat teams. Data capture will employ direct observation, ad hoc interviews, formal questionnaires and a Focus Group after the exercise. Annexes to the report provide details of questionnaires and other data capture approaches. For data capture to be successful, all observers will require familiarization with SAM, the exercise, and data capture procedures.



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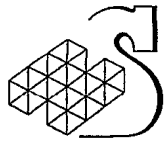


# 1. Introduction

## 1.1. Outline

This document provides the basic information and materials to prepare for, conduct and analyze data from a Preliminary User Trial of the Situation Awareness Module (SAM) of the Situation Awareness System (SAS). The Plan is to be used during a Battle Group level field trial of SAM – Royal Canadian Dragoon (RCD) Battle Group (BG) Exercise in May 1999.

## 1.2. Background

The Position Determination & Navigation Project (PDALF) entered implementation in 1996 with the mandate to deliver a Global Positioning System (GPS) capability for the army followed by a vehicle mounted and integrated "Blue Force" Situation Awareness (SA) capability riding on the communications backbone provided by the Tactical Command, Control and Communication System (TCCCS) Project. The GPS capability has been fielded for dismounted use and the SA capability is currently in implementation with fielding scheduled to commence in Oct 2000. Concurrent with this project there has been a shift in the Canadian Army's doctrinal focus such that significant effort is now being placed on the development of concepts, procedures and tools to assist commanders in making better decisions, faster. The segment of the PDALF project that will deliver the SA component is known as the SAS. SAS includes both modifications in TCCCS/IRS and SAM. To date, this system has been developed with user input in a lab type environment. It is now required that the SAM be evaluated in field environment prior to the close of the development cycle.

Accordingly, a limited preliminary user field trial will be conducted in conjunction with a RCD BG training exercise to be conducted in Gagetown in early May but the preliminary user trial of the SAM must defer to the training objectives of the exercise. This report outlines a trial plan to assess the usability and utility of the SAM using data collected through observation, interviews, questionnaires, and Focus Groups. As a lower priority, opportunities will be sought to pilot methods for capturing performance data (speed and accuracy) using the SAM data recording system.

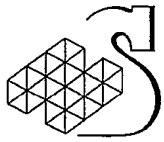
The plan is being prepared under contract to the Defense and Civil Institute of Environmental Medicine (DCIEM) on behalf of the Director of Land Requirements (DLR 4-9)

## 1.3. Aim

The aim of this project is to develop a trial plan to evaluate the usability and utility of SAM at the battle group level under exercise conditions.

## 1.4. Report Format

The main body of the report provides sections on background, scope, participants, and approach. Annexes provide details of the exercise scenario, data capture instruments (questionnaires, etc), and SAM software functionality.



## 1.5. Scope

The trial plan will be limited to the assessment of usability and utility of SAM with in the context of a Battle Group training exercise. However, where possible, opportunities will also be sought to gather data in order to evaluate the SAM training package provided as well as data concerning tactics, techniques and procedures (for the use of SAM).

***Utility*** - is defined as the degree to which, independent of '*Usability*', SAM functions are ***useful*** for user goal and task related SA needs

***Usability*** - is defined as the degree to which, independently of '*Utility*', SAM features are ***easy to use*** in terms of:

- cognitive fit (information content and display format in relation to cognitive demands).
- physical fit (users sensory, anthropometric, and bio-mechanical needs).

For Usability, priority will be given to cognitive fit. Both utility and usability will be examined in terms of exercise mission related goals and tasks as well as SAM functionality.

Assessment of SA will be limited to participants' perception of some key aspects of their SA including location of friendly forces, relevant unit status i.e. the information provided by the SAM software. SA will be assessed in terms of users' ability, in a timely, complete and accurate manner, to:

- Detect pertinent information elements.
- Integrate the information detected into a picture of the current situation.
- Project the current situation with respect to friendly forces into the near future.

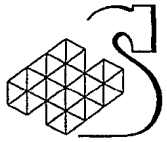
Where possible, the impact of using SAM will be assessed in terms of:

- Perceived quality of decision making.
- Patterns of communication.
- Overall workload.

Several types of SAM units will be deployed including 14 (and one spare) fully functional SAMs and 26 PLGR systems. However, this trial will be limited to assessment of the 14 SAM systems. Deployment of these systems is detailed later in the report.

## 1.6. Limitations

- Data capture must not interfere with unit training goals. Data capture methods must be easy to apply and readily adaptable to the unpredictable and changing circumstances of a training exercise in terms of schedule and access to personnel. Access to SAM users for data capture will need to be coordinated with the relevant unit commander on the ground.
- The availability of observers during the field trial is uncertain. Observers will require training and briefing prior to data capture.
- SAM equipment provided is prototype and still under development and some functions may not be entirely reliable. Ruggedization is limited.
- The small number of trial participants, especially within specific BG and Combat Team (cbt tm) member positions, will limit analysis to descriptive statistics.
- Unit organization and SAM distribution are subject to change up to and during the trial.



- SAM installation in vehicles may compromise best use, especially when mobile. If so, this will need to be taken into account when interpreting results.
- The trial sample comprises a cross section of combat team members with potentially different needs. The collection and aggregation of data should take this into account.
- Exercise scenarios will not be replicated and no experimental controls will be available. This means that SAM-present vs SAM absent conditions cannot be compared under repeatable conditions.

## 1.7. SAM Software Functionality (Annex A)

Broadly speaking, SAM enables users to:

- Log on and configure the overall system.
- Set up and maintain an electronic map showing location of friendly (automatically using GPS) and enemy units (manually by contact reports), including functions related to ORBAT, unit aggregation and status, track history, etc.
- Create, send, receive, and manage text messages, reports, returns, alerts, etc.
- Create, send, receive, and manage plans and orders in various formats.

## 1.8. Participating Units (Annex B)

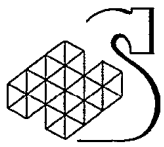
Units participating in the trial will include an ad hoc BG comprising RCD Regimental (Regt) Head Quarters (HQ), HQ Squadron (Sqn), B Sqn, B Company (Coy) & C Coy 1st Battalion, Royal Canadian Regiment (1 RCR) with other elements as shown in Annex B. In addition there will be an artillery battery commander and Forward Observation Officer (FOO) personnel and one engineer support troop, organized as combat teams. All relevant exercise personnel will be fully trained in SAM functionality and procedures prior to the exercise. Some elements of the exercise will be notional and will therefore not be equipped with SAM.

## 1.9. Distribution of SAM Systems (Annex B)

Several types of SAM units will be distributed but only the 14 (and one spare) fully functional SAM systems will be assessed during this trial. The distribution of the SAM systems to different call signs (c/s) is shown in Annex B.

## 1.10. Exercise Preparation and Schedule (Annex C)

RCD BG Exercise is a battle group exercise intended as a work up for the Combat Team Commanders course exercise comprising an advance to contact preceding a hasty attack followed by a defensive action. The exercise runs from 1-9th May 1999 and is expected to follow the schedule outlined below. In addition, there will be an RCD SAM familiarization exercise on 12-14 April in Petawawa. Observers will be briefed by the Trial Director on 27 April in Gagetown during coordination briefings (trial outline, exercise scenario, data capture, responsibilities, timings). Infantry units and other users not yet familiar with SAM will be trained on 29-30 April in Gagetown. It may be possible to familiarize observers with SAM at the same time. (Observers require sufficient knowledge to recognize SAM functions, not the skill to operate or advise users.)



The approximate sequence of events for the data collection team is outlined below. Implementation is the responsibility of the Trial Director.

- Meet and brief trial participants prior to the exercise (as determined by Trial Director).
- Phase I exercise data capture followed by data collation and team meeting (May 1-2).
- Phase II exercise data capture followed by data collation and team meeting (May 3-7).
- Phase III Focus Group data capture, final data collation (May 8-9).
- Data reduction and analysis (as determined by Trial Director).
- Report writing and submission (as determined by Trial Director).

| DATE | Activity |
|---|---|
| **Saturday 1st May** | Exercise commences |
| **1-2nd May** | Independent coy and sqn training.<br>***Observers coordinate with SAM users. Limited data capture.*** |
| **2nd May** | End of day orders: cbt tm advance to contact within BG context on 3-4th May.<br>***Coordinate with SAM users for observation of different c/s and ad hoc interviews.*** |
| **3-4th May** | Advance to contact<br>Repeat 3-5 quick attacks per day using North-South axis of Lawfield Corridor.<br>May include an attack on bride at the South end of the Lawfield Corridor towards the end of day 4. Battle Procedure hides at approximately 2300 hrs.<br>***Coordinate with SAM users to complete interim questionnaire on completion.*** |
| **4th May** | End of day orders: hasty defence and delay using the Jerusalem Ridge on 5-6th May.<br>***Coordinate with SAM users for observation of different c/s and ad hoc interviews.*** |
| **5-6th May** | Conduct hasty defence and delay (North end of Lawfield Corridor).<br>Likely followed by pursuit on day 6.<br>***Coordinate with SAM users to complete interim questionnaire on completion.*** |
| **7th May** | Demonstration Rehearsal to include a BG attack on Headline Ridge.<br>This will be at least two hasty attacks,<br>one with obstacles and the other without obstacles.<br>***Limited data capture. Coordination mtg for observer teams. Plan Focus Group*** |
| **8th May** | Maintenance and contingency for exercise slippage.<br>***Main Focus Group(s) for user trial (2-3 hours).*** |
| **9th May** | Visitors day, and maintenance.<br>***Spare. Ad hoc interviews in selected areas, if required.*** |

**Table 1: Exercise Schedule**

# 2. Method

## 2.1. Outline Approach

Based on discussions with the Trial Director and Unit OPI, data capture during the BG exercise has been divided into three phases.

- Phase I: Sub-unit work up exercises with breaks.
  - Observation, ad hoc interviews, ad hoc performance data, mini Focus Groups.
- Phase II: Battle group 24/7 exercise with limited breaks, consistent with the training objectives.
  - Observation, ad hoc performance data mini Focus Groups.
- Phase III: Post exercise:
  - Exit Questionnaire
  - Exit Focus Groups.

Throughout each phase, data capture will concentrate on three unit groups: BG or Regt HQ, and two combat teams (see Figure 1). Observers will work in teams of two: one army officer and one defence scientist. Each Observation Team will be responsible for data capture within one unit group. Overall coordination will be the responsibility of the trial director. Opportunities for Observers to accompany c/s during the exercise is to be coordinated with RCD BG HQ and Coy/Sqn commanders.

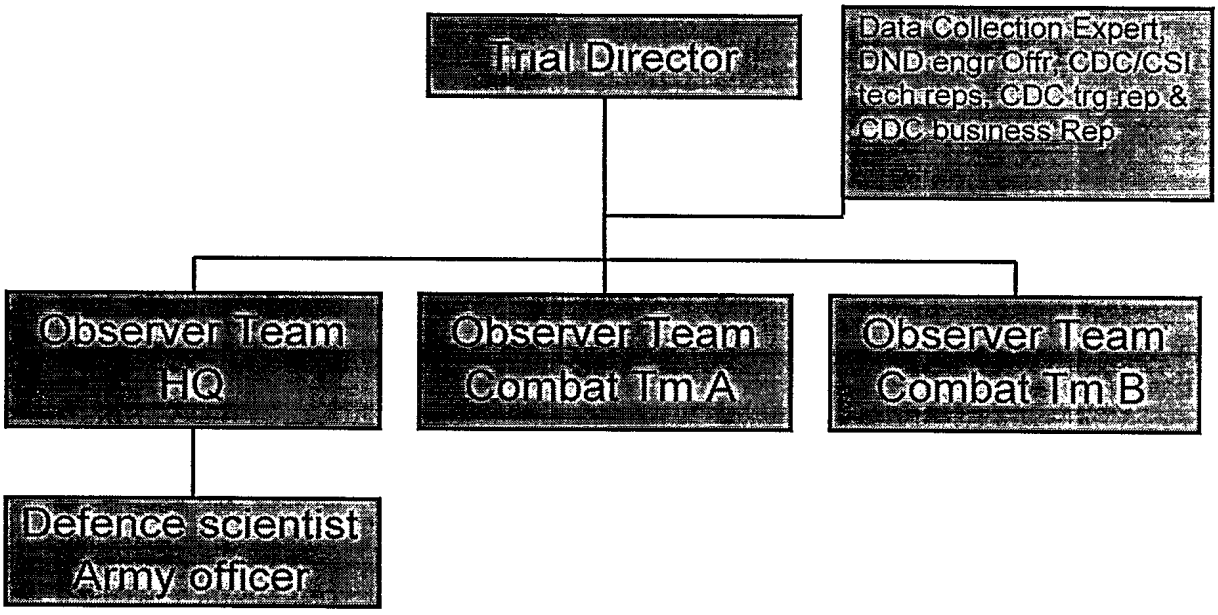
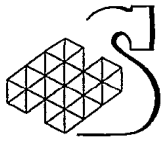



**Figure 1: Observer Organization**



Observers will be required to complete the tasks listed below. Observers should be thoroughly briefed on the use of the data sheets provided with this trial and familiarized with the general principles of capturing observational data, as well as conducting interviews and Focus Groups. Depending on their familiarity with army exercises, observers should also be briefed on unit organization, exercise scenarios, and the general conduct of army operations in relation to likely SAM usage. For the unit of interest, the role of each Observation Team will be to:

- record conditions of SAM use.
- watch and record how participants use SAM to accomplish their tasks.
- elicit and record ad hoc comments from SAM users while using SAM.
- interview SAM users at appropriate points during the exercise.
- administer questionnaires at appropriate times.
- prepare for and conduct an exit Focus Group.
- ensure all SAM users complete the required questionnaires.
- safeguard and submit completed data sheets to the Trial Director for later analysis.

Observers should also seek opportunities to time performance of selected tasks.

Although observers will not be able to cover each SAM module at all times, they will be expected to observe and record a cross section of users and SAM functions using the SAM function checklist provided (Annex A).

Annexes provide the following:

A. SAM outline functionality
B. Trial participants
C. Exercise schedule
D. Observers' data package.
E. Mid trial questionnaires
F. End trial questionnaire and Focus Group.
G. Archival data capture

## 2.2. Trial Participants (Annex B)

For the purpose of this trial plan, Trial Participants are the users of the 14 (and one spare) full function SAM systems. Trial participants represent a cross section of BG and cbt tm command personnel at the BG HQ, Sqn/Coy level from the infantry, armour, and artillery. Annex B shows details and organization of Trial Participants.

All participants will have received training in SAM from the software developer prior to the start of the exercise though attendance at the training and its effectiveness remain to be established. RCD participants will also have benefited from familiarization with SAM in the field. Infantry and other units will only have had limited opportunity to prepare for the use of SAM for this exercise.

## 2.3. Data Collection (Annex D, E, F, G)

Data collection approaches are based on exercise phases and scenario events. Data collection approaches are outlined in Table 2 below. A coordination meeting, as directed by the Trial Director, of all observers should be held between each phase to discuss modifications, cross check data and to store data acquired in a safe place. Waterproof data collection envelopes should be provided for each exercise phase for each Observation team.

| | Observer teams | | |
|---|---|---|---|
| | HQ | Cbt tm A | Cbt tm B |
| **Phase I Independent Coy/Sqn work up** | • Direct observation<br>• Ad hoc Interviews<br>• Ad hoc data capture<br>• Mini-Focus Groups | | |
| **Phase II Cbt Tm within BG context scenario** | • Mini-Focus Groups<br>• Short questionnaire<br>• Direct observation<br>• Ad hoc Interviews<br>• Ad hoc performance data<br>• Archival message data (if available) | | |
| **Phase III After exercise activity** | • Major Focus Groups<br>• Exit questionnaire<br>• Archival message analysis | | |

**Table 2: Data Capture Approaches**

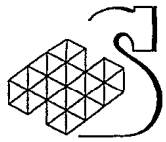
Observation teams should coordinate with the appropriate unit commander so that all SAM users are interviewed as well as all key SAM functions observed. A checklist of SAM functionality can be seen in Annex A.

### 2.3.1. Direct observation (see Annex D)

During observation, observers will use record incidence of SAM function use by exercise event, and record data as available according to the Observers data capture sheet. This includes exercise phase, task being performed, conditions (night / day, mobile/static, etc), observers and users comments, ratings and, where appropriate and possible, time to perform selected tasks. Each observation team may carry a camera to provide contextual pictures to supplement these notes.

### 2.3.2. Ad hoc interviews (see Annex D)

During the combat team and battle group phases of the exercise, observers will take advantage of lulls in the exercise tempo to question users about SAM functions they have used in terms of ease of use and usefulness.



### 2.3.3. Ad hoc performance data (see Annex D)

During the combat team and battle group phases of the exercise, observers will take advantage of opportunities to identify start and stop points for selected SAM functions and to time-task performance.

### 2.3.4. Mini Focus Groups (see Annex F)

During the mid exercise break after combat team exercises and before the full battle group scenario, each observer team should bring together or visit each sub group of SAM users and conduct a short Focus Group to review the SAM functions used up to that point. These will capture users' comments and perception of ease of use and usefulness by exercise task.

### 2.3.5. Mid trial & exit questionnaire (see Annex E)

During the first phase of the exercise itself, or if this proves impossible, during the mini-Focus Groups conducted during the mid-exercise break, trial participants should complete the short questionnaire provided for the different stages of the exercise. Before the main Exit Focus Group starts at the end of the exercise, each participant should complete their final Exit Questionnaire covering the exercise as a whole.

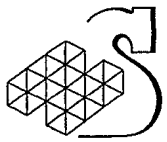
Collusion should be prevented. Observer teams should ensure that trial participants should complete and submit their exit questionnaire separately if they cannot attend the main post exercise Focus Group.

The Questionnaire will be used to assess overall ease of use and usefulness of SAM, to compare it with the existing system, to assess the training package provided prior to the trial, and to identify implications for tactics and standard operating procedures.

### 2.3.6. Exit Focus Group (see Annex F)

After the exercise, all trial participants should be brought together at Petersville Camp in Gagetown Training Area (*time to be confirmed by trial director and RCD Ops O*) in their participant groupings (i.e. HQ, Cbt tm A and B) to discuss their experience with SAM. This Focus Group will require at least two hours and should be conducted under shelter and away from distractions. A class room environment would be ideal, though not essential. One observer should facilitate discussion while the other acts as a recorder. Focus Group format should combine SAM functionality with exercise sequence to review users experiences systematically using probe questions (see Annex). Some probe questions are also suggested in the Annex. Others may arise as a result of observer experience during the exercise. The trial director should coordinate consistency of questions across Focus Groups. Basic rules for Focus Group conduct are outlined in the Annex. These are designed to maximize participant responses and minimize any chilling effect resulting from judgmental or dismissive statements from authority figures. Members of the SAM design team should not be permitted to participate during the Focus Group though observation and discussion with participants afterwards are encouraged.

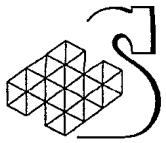
At the discretion of the trial director, a short, second focus re-group might be held which re-organizes trial participants according to military function (Armour, Infantry, Artillery, etc) to provide further insight. Time permitting, SAM users may also be asked to speculate on the use of SAM for other operations than those exercised.



### 2.3.7. Archival message data (see Annex G)

SAM has some functions that save incoming and outgoing message traffic together with distribution lists and time of arrival. Data capture should be attempted using these functions for each full service SAM c/s and archived for later analysis. These functions should be tried during one scenario replication during Phase I of the exercise to ensure that the approach works effectively. If successful so, data capture should be considered for selected exercise scenarios during the remainder of the exercise. It will be important for subsequent analysis that start and end times of the scenario segments of interest are readily identified on the archived data sets. Such identification may be time and date related, or based on transmission of recognizable messages or orders. These archived data may be analyzed later at any of several levels, according to priorities established at the time. These levels include:

- Frequency of message type by sender and receiver according to different phases of the exercise scenario.
- Message content and length, etc.
- Transmission errors.



# 3. Data Handling and Analysis

## 3.1. Equipment Required

The following equipment should be provided to each observer team.

- Radio communication with the Trial Director and among team members.
- Clip board and field message pad for each observer.
- Data capture sheets.
- Questionnaires.
- Interview and Focus Group guidelines.
- Still camera and film for each Observation Team.
- One video camera to be used as the Trial Director determines.
- CF-27 laptop computer and portable printer.
- Office Stationary products (PP&S)

## 3.2. Data Storage

Sufficient waterproof data storage envelopes (or other suitable means) should be provided to each Observation Team to last during the trial (e.g. Tyvek type courier envelopes). These envelopes should be clearly marked with the data type to be stored in each envelope and a return address (in case of loss). Envelopes should be collected from each team at frequent intervals, checked for completeness and stored in a safe place.

In the event that message traffic can be captured and archived, then appropriate electronic storage should be provided.

## 3.3. Data Reduction

Clerical support will be required for data entry. Prior to data reduction, a data entry coordination meeting should decide the format, software and organization of data entry.

## 3.4. Data Analysis

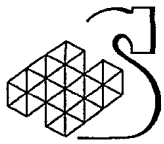
The small number of trial participants will preclude the use of analytical statistics and data analysis will be limited to descriptive statistics, interpreted by inspection.

Analysis of any archival data should be determined at this point.

## 3.5. Trial Report

The trial report is recommended to contain the following elements:

- Main body
  with background, outline method, main results by data set, discussion drawing out themes which run across data sets, conclusions and recommendations.
- Annexes for each data set (Exit questionnaire, observer comments, etc)
  with detailed method, results and conclusions for the data set in question.



# Annex A: SAS Outline Functionality

This Annex contains and outline of SAS functionality. 'It is to be used as a supplement to the Observer Checklist found in Annex D: Observer Data Package.

**Group A – Set up:**

- *Initialize*: permits users to log on and set up the system.
- *Configure*: permits users to configure the system according to SOP or individual choice for a range of features.

**Group B: Situation Awareness:**

- *Set SA map*: permits users to set up the electronic map environment required.
- *Maintain SA:* permits users to manage display of blue and red force position and movement actual or predicted.
- *Objects*: permits users to create, display and manage symbols on the map display.

**Group C –Communications:**

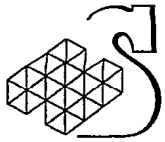
- *Messages*: permits users to view, check, log, distribute, annotate text messages.
- *Requests, Returns, Alerts*: permits users to create and send pre-formatted messages of various types.

**Group D – Plan and Direct:**

- *Plans*: permits users to create and send pre-formatted plans, annexes, appendices, and overlays.
- *Orders*: permits users to create and send various pre-formatted orders.

| A: Set up | | B: Situation Awareness | | | C: Communications | | | | D: Plan and Direct | | E: Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Initialize | *Configure* | Set SA map | Maintain SA | Objects | *Msg Traffic* | *Requests** | *Returns** | *Alerts** | *Plans** | *Orders** | Misc |
| •Log on | •Fn keys | •Scroll | •Symbol overlay | •Select | •View incoming | •*Create* | •*Create* | •*Create* | •*Create* | •*Create* | •Screen key board |
| •Reset | •Password | •Map centre | •Create symbol | •Dragging | •View outgoing | •*Send* | •*Send* | •*Send* | •*Send* | •*Send* | •Comms interface |
| | •OSPR | •Centre mode | •Modify symbol | •Copy | •View overheard | *-Engineer* | *-Operations (5)* | *-Air alert* | *-Plan* | *-OPORD* | •Configure ports |
| | •CPR | •Scale map | •View track history | •Paste | •View partial | *-Fire* | *-Intelligence (2)* | *-TOPP alert* | *-Annex* | *-Frag O* | •Internetting |
| | •Bearing | •3D mode | •View unit status | •Edit | •Overhear net | *-H'way clearance* | *-Artillery (2)* | *-NBC alert* | *-Appendix* | *-Mov O* | •Config Printer |
| | •DTG | •Grid lines | •View range fans | •Delete | •Comm check | *-Medevac* | *-Engineer (?)* | | *-Overlay* | *-Wng O* | •Import map data |
| | •Datum | •View E map | •Collapse orbat | •Save to file | •Affiliate to net | *-Supply* | *-Log/Admin (5)* | | | *-COA* | •Import ORBAT |
| | •Default locat'n | •Heading | •Update map | •Load from file | •View net chart | *-Report* | *-Medical (1)* | | | | •Clear data base |
| | •Display mode | •Re-draw map | •*OSPR** | •Print | •Journal | | *-NBC (5)* | | | | |
| | •Location mode | •Set defaults | •*CPR** | | •Distribution list | | *-Signal (1)* | | | | |
| | •Range mode | | •*Contact wait out** | | •Forwarding rules | | *-Misc (2)* | | | | |
| | •Syslog | | | | | | | | | | |
| | •Track locations | | | | | | | | | | |
| | •Track times | | | | | | | | | | |
| | •Temp mode | | | | | | | | | | |
| | •Time mode | | | | | | | | | | |
| | •Time zone | | | | | | | | | | |
| | •Audible alarm | | | | | | | | | | |
| | •Visual alarm | | | | | | | | | | |

**KEY:**
Shaded sub cells = potential sources of archive data for post exercise analysis
*+ *Italics* = potential targets for preparation time data taken by observers



# Annex B: Trial Participants

This Annex contains a table listing the potential distribution of SAS for the exercise by participant, call sign, likely other users etc. This information is also shown in schematic format. This information is likely to change before and possibly during the exercise and should be updated as necessary.

## Annex B: Trial participants

For the purpose of this plan, Trial Participants are defined as the users of full function SAM systems. These SAM systems have been distributed as shown in Table B1 below.

| Grouping | Position | User | C/S | Rank | Vehicle | Other likely users |
|---|---|---|---|---|---|---|
| BG HQ | Rover | CO | 9T | LCol | LEO | Battle Adj (Capt) |
| | Main | Ops O | 0A | Capt | M577 | CO, Regt 2i/c, Duty O(s), IO |
| | Alt | Ops WO | 0B | WO | M577 | Trg O |
| | BCP | Bty Comd Arty | G19 | Maj | M113 | BC Vehicle - Bty Comd, Sigx2, BC Tech |
| | Eng | Eng Trp Comd | E19 | Lt | M113 | |
| | HQ Sqn | HQ Sqn 2i/c | 8A | Capt | LSVW | OC HQ Sqn |
| Cbt tm "A" | Cbt tm comd, B Coy Comd (sqn -) | OC | 2 | Maj | M113 | Sig |
| | Battle Captain | BC | 2B | Capt | LEO | Loader |
| | | FOO | G11 | Capt | | Foo Tech, Sig |
| | | Coy 2i/c | I29A | Capt | M113 | Sig |
| Cbt tm "B" | Cbt tm comd (½ sqn) | OC | 2 | Maj | | Loader |
| | C Coy comd | OC | I3 | Maj | M113 | Sig |
| | | FOO | G12 | Capt | M113 | Foo Tech, Sig |
| | | Sqn2 i/c | 29A | Capt | LSVW | Loader |
| | | | | | | |

**Table B1: Potential Trial Participants.**

Anticipated organization of trial participants by call sign is shown below

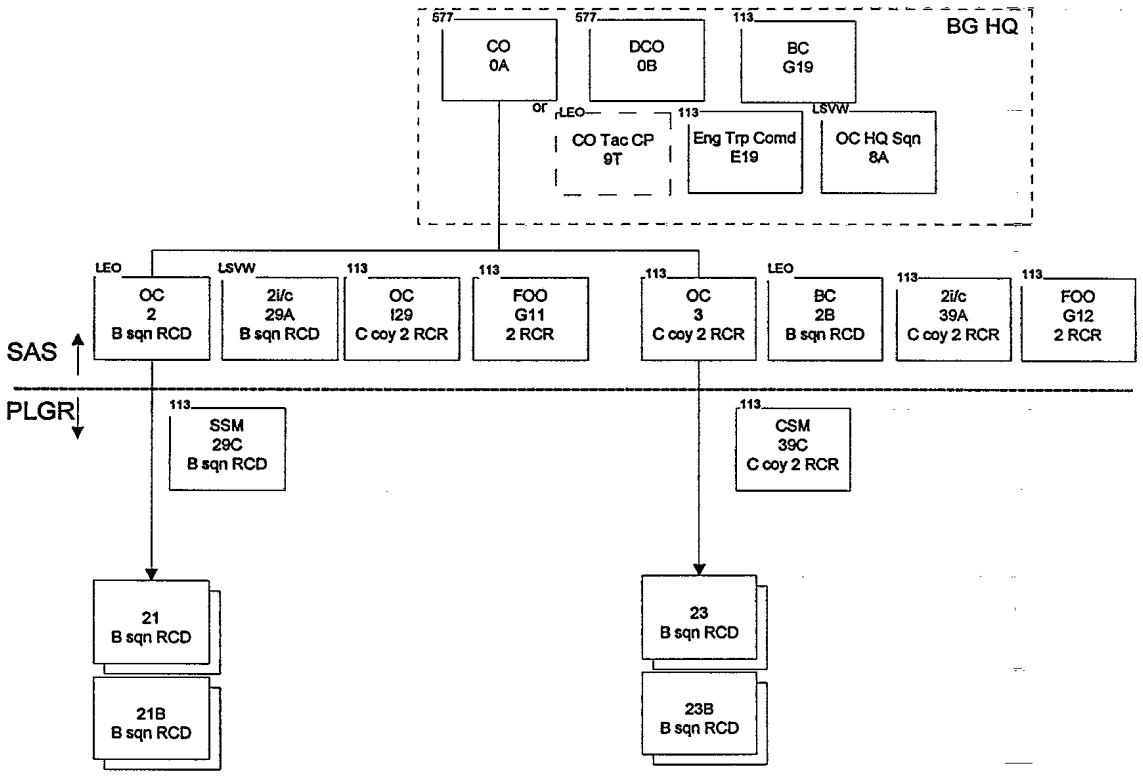
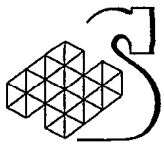



**Figure B1: Trial Participants and Potential SAS/PLGR Distribution**



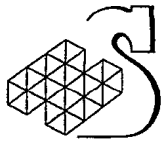
# Annex C: Trial Schedule

This annex repeats the trial schedule found in the main body of the trial plan and is to be used as a supplement to Annex D: Observer Data Package.

## Annex C: Trial Schedule

| DATE | Activity |
|---|---|
| **Saturday 1st May** | Exercise commences |
| **1-2nd May** | Independent coy and sqn training.<br>***Observers coordinate with SAM users. Limited data capture.*** |
| **2nd May** | End of day orders: cbt tm advance to contact within BG context on 3-4th May.<br>***Coordinate with SAM users for observation of different c/s and ad hoc interviews.*** |
| **3-4th May** | Advance to contact<br>Repeat 3-5 quick attacks per day using North-South axis of Lawfield Corridor.<br>May include an attack on bride at the South end of the Lawfield Corridor towards the end of day 4. Battle Procedure hides at approximately 2300 hrs.<br>***Coordinate with SAM users to complete interim questionnaire on completion.*** |
| **4th May** | End of day orders: hasty defence and delay using the Jerusalem Ridge on 5-6th May.<br>***Coordinate with SAM users for observation of different c/s and ad hoc interviews.*** |
| **5-6th May** | Conduct hasty defence and delay (North end of Lawfield Corridor).<br>Likely followed by pursuit on day 6.<br>***Coordinate with SAM users to complete interim questionnaire on completion.*** |
| **7th May** | Demonstration Rehearsal to include a BG attack on Headline Ridge.<br>This will be at least two hasty attacks,<br>one with obstacles and the other without obstacles.<br>***Limited data capture. Coordination mtg for observer teams. Plan Focus Group*** |
| **8th May** | Maintenance and contingency for exercise slippage.<br>***Main Focus Group(s) for user trial (2-3 hours).*** |
| **9th May** | Visitors day, and maintenance.<br>***Spare. Ad hoc interviews in selected areas, if required.*** |

**Table C1: Exercise Schedule**



# Annex D: Observer Data Package

This Annex contains the materials of the Observer Data Package. This includes the:

- Observer SAS Checklist
- Observer Data Sheet
- Interview Data Sheet

These materials are to be used by Observers during the SAS trial to capture Direct Observation, Interview and Performance Data.

# Observer SAS Checklist — SAS User Trial

This check list is taken from the SAM "Help" files and is to track your coverage of SAM features.
Ensure all the features observed and discussed with as many of your trial users as possible.
Discussion points are noted on the Observers data sheet (Ease of use, usefulness, etc).
Check the appropriate box as they are covered.
Where possible, time task performance for the items marked with an asterisk (*).
Where possible, record which c/s you have covered for which features.

| A: Set up | |
|---|---|
| Initialize | DONE? |
| Log on | |
| Reset | |
| Configure | |
| Fn keys | |
| Password | |
| OSPR | |
| CPR | |
| Bearing | |
| DTG | |
| Datum | |
| Default locat'n | |
| Display mode | |
| Location mode | |
| Range mode | |
| Syslog | |
| Track locations | |
| Track times | |
| Temp mode | |
| Time mode | |
| Time zone | |
| Audible alarm | |
| Visual alarm | |
| **B: Situation Awareness** | |
| Set SA map | DONE? |
| Scroll | |
| Map centre | |
| Centre mode | |
| Scale map | |
| 3D mode | |
| Grid lines | |
| View E map | |
| Heading | |
| Re-draw map | |
| Set defaults | |
| Maintain SA | |
| Symbol overlay | |
| * Create symbol | |
| Modify symbol | |
| * View track history | |
| View unit status | |

| Maintain SA (con't) | |
|---|---|
| View range fans | |
| Collapse orbat | |
| Update map | |
| OSPR | |
| CPR | |
| Contact wait out | |
| Object Management | |
| Select | |
| Drag | |
| Copy | |
| Paste | |
| Edit | |
| Delete | |
| Save to file | |
| Load from file | |
| Print | |
| **C: Message management** | |
| Messages | DONE? |
| View incoming | |
| View outgoing | |
| View overheard | |
| View partial | |
| Overhear net | |
| Comm check | |
| Affiliate to net | |
| View net chart | |
| Journal | |
| Distribution list | |
| Forwarding rules | |
| Requests | |
| * Create | |
| Send | |
| Engineer | |
| Fire | |
| H'way clearance | |
| Medevac | |
| Supply | |
| Report | |

| eturns | |
|---|---|
| * Create | |
| Send | |
| Operations (5) | |
| Intelligence (2) | |
| Artillery (2) | |
| Engineer (?) | |
| Log/Admin (5) | |
| Medical (1) | |
| NBC (5) | |
| Signal (1) | |
| Misc (2) | |
| Alerts | |
| *Create | |
| Send | |
| Air alert | |
| TOPP alert | |
| NBC alert | |
| **D: Plan and Direct** | |
| Plans | DONE? |
| * Create | |
| Send | |
| Overlay | |
| Annex | |
| Appendix | |
| * Overlay | |
| Orders | |
| * Create | |
| Send | |
| Op Ord | |
| Frag O | |
| Mov O | |
| Wng O | |
| COA | |
| **E: Other** | DONE? |
| Screen key boar | |
| Comms interfac | |
| Configure port | |
| Internettin | |
| Config Printe | |
| Import map dat | |
| Import ORBA | |
| Clear data bas | |

Observer Comments:

**Instructions:** Enter data as indicated by column headings. Keep one set of sheets for each exercise day.

| **Observer:** | **C/S:** | **Date:** |
|---|---|---|

Check scenario type:

Advance to contact ☐ Quick attack ☐ Defence ☐ Delay ☐ Pursuit ☐ Other ☐ _____

| Exercise Phase and User Activity (1) | Time(2) | SAS Task (3) | Approx. Duration (4) | Comments (5) |
|---|---|---|---|---|
| *Advance to objective Loader sent contact report for c/s 2* | *0700* | *Find data, key in text* | *45 sec* | *O# Difficult to key in data when mobile S# coordinates difficult to read when mobile* |
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**Notes:**

(1) Enter who actual user is. What the user is doing: *Planning hasty attack. Making contact report. Preparing return.* Use more than one row if you need.
(2) Enter time.
(3) Enter SAS function being used.
(4) Enter time taken to perform priority SAS tasks (see items marked * in SAS checklist). Be as precise as you can. Note start and end point.
(5) Enter anything that distinguishes (e.g. condition, day/night etc.). Use more than one row if you need. O# = observer comment. S# = trial participant comment

# Interview Data Sheet — SAS User Trial

**Instructions:** Interview during lull in exercise. Enter data indicated. Keep one set of sheets for each exercise day.

| Observer: | C/S: | Date: |
|---|---|---|

Check scenario type:

Advance to contact ☐ Quick attack ☐ Defence ☐ Delay ☐ Pursuit ☐ Other ☐ _____

**Probe questions to interviewee.**

1. What did you have to do during the past exercise phase?
2. What did you use SAS for during this? Which SAS features did you use?
3. Was SAS was **"Useful"** for those tasks?
4. Was SAS was **"Easy to Use"** for those tasks?
5. Was SAS was **"Better"** than the existing system for those tasks? (Faster, less work, more accurate, etc)?
6. Was SAS **"Reliable"** for those tasks?
7. Was SAS **"Easy to Learn"** for those tasks?
8. Do you agree that the training you received for using SAS for those tasks was **"As effective as possible"?** Did the SAS training you had prepare you for what you had to do? How could the training have been improved?
9. Is there anything that should be considered for unit SOPs for those tasks?
10. Was there anything you chose not to use SAS for, even though the feature exists, and if so, why?

| 1: Exercise Phase, User Activity | 2: SAS feature used? | 3-10: Comments from interviewee *(How better, worse, SOP issues, training suggestions, etc)* |
|---|---|---|
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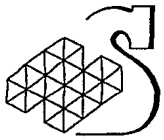


# Annex E: Mid Trial & Exit Questionnaire

This Annex contains Personal Information Questionnaire, Mid Trial Questionnaire and Questionnaire Administration Guidelines.

The Personal Information Questionnaire should be completed once by every fully functional SAS user who completes a Mid Trial Questionnaire and/or a Final Exit Questionnaire or has used SAS and participates in a mini or final focus group.

The Mid Trial and Exit Questionnaire should be administered according to the Trial Schedule (Annex C) or as indicated by the Trial Director.

Instructions: To be completed on the first day of the exercise by all SAM users (fully functional SAM systems).

**Background**

| Name / rank: | C/S for Ex: *e.g. 0A* | Posn for Ex: *e.g. Duty O* | Years in CF: |
|---|---|---|---|
| **Past Experience (current position first)** | | | |
| Unit | Position | | Years in position |
| *e.g. 1 Tp, B sqn, RCD* | *e.g. Tp Ldr, Bosnia* | | *e.g. 6 months* |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| | Frequency of use (check one box) | | | | |
|---|---|---|---|---|---|
| *Computer Experience* | Never | Seldom | Now & then | Frequently | Always |
| Desk top computers | ☐ | ☐ | ☐ | ☐ | ☐ |
| Lap top computers | ☐ | ☐ | ☐ | ☐ | ☐ |
| Windows 3.1/95/98 | ☐ | ☐ | ☐ | ☐ | ☐ |
| Spreadsheets | ☐ | ☐ | ☐ | ☐ | ☐ |
| Word processors | ☐ | ☐ | ☐ | ☐ | ☐ |
| Drawing or map tools | ☐ | ☐ | ☐ | ☐ | ☐ |
| Keyboards | ☐ | ☐ | ☐ | ☐ | ☐ |
| Mouse, trackball, etc. | ☐ | ☐ | ☐ | ☐ | ☐ |
| Internet | ☐ | ☐ | ☐ | ☐ | ☐ |
| Electronic mail | ☐ | ☐ | ☐ | ☐ | ☐ |
| Video games | ☐ | ☐ | ☐ | ☐ | ☐ |

| | Frequency of use (check one box) | | | | |
|---|---|---|---|---|---|
| *SAS Experience* | Never | Seldom | Now & then | Frequently | Always |
| Before this exercise | ☐ | ☐ | ☐ | ☐ | ☐ |

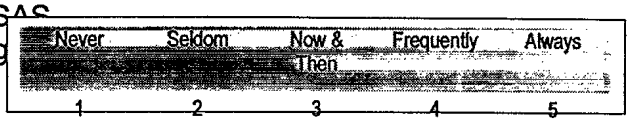
## Mid Trial Questionnaire — SAS User Trial

| Name / rank: | C/S for EX: *e.g. OA* | Posn for EX: *e.g. Duty O* | Date: |
|---|---|---|---|

**Instruction:** Check EX scenario(s) covered by this questionnaire.

Advance to contact ☐ Quick attack ☐ Defence ☐ Delay ☐ Pursuit ☐ Other ☐ _____

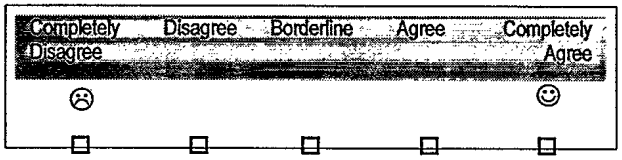
**Instructions:** Indicate how often you used the different parts of SAS during the phases of the exercise today using the scale on the rig




| Exercise phase | SA MAP | | | | | MESSAGING/ COMMUNICATIONS | | | | | PLANS & ORDERS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| *Planning* | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| *Orders* | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| *Final Preparation* | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| *Execution* | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| *Consolidation* | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Other_____ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Other_____ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Other_____ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **OVERALL** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**Instructions:** Use the rating scale on the right to do the following:

→ For each statement, check the number box that matches your answer. Only answer for SAS items YOU have used today. Agree in the final column (*SAS Better?*) if you think SAS is better than the existing system or method. Check "NA" if not used.




| ***The following SAS functions were:*** | | ***Useful?*** | ***Easy to Use?*** | ***SAS Better?*** |
|---|---|---|---|---|
| **SET UP AND CONFIGURE** | | ☹ ☺ | ☹ ☺ | ☹ ☺ |
| 1.Initialize (log on, reset) | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 2.Configure | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| **SAS training for these functions was:** | NA | ☐ ☐ ☐ ☐ ☐ | | |

Comments on Set up and Configuration? Refer to functions by question number & use back of sheet for more space.

| *The following SAS functions were:* | | *Useful?* ☹ ☺ | *Easy to Use?* ☹ ☺ | *SAS Better?* ☹ ☺ |
|---|---|---|---|---|
| **SA MAP MANAGEMENT** | | | | |
| 3.Graphics management(arrows, boundaries, etc) | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 4.Unit symbol management (paste, edit delete, etc) | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 5.Orientation (centre, scroll, grid lines, heading, etc) | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 6.Track histories | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 7.Unit status | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 8.Range fans | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 9.Orbat management | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 10.Map update | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 11.Own Station Posn Report (OSPR) | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 12.Consolidated Position Report (CPR) | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| **SAS training for these functions was:** | NA | ☐ ☐ ☐ ☐ ☐ | | |

Comments on SA Map Management? Refer to functions by question number & use back of sheet for more space.

| *The following SAS functions were:* | | *Useful?* ☹ ☺ | *Easy to Use?* ☹ ☺ | SAS better? ☹ ☺ |
|---|---|---|---|---|
| **MESSAGE MANAGEMENT** | | | | |
| 13.View messages (incoming, outgoing, partial etc.) | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 14.Net management (overhear, affiliate, view net chart) | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 15.Comm check | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 16.Journal | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 17.Distribution management (lists, forwarding rules) | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 18.*Create* Requests, Returns, Alerts | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 19.*Send* Requests, Returns, Alerts | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 20.Contact Wait Out | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| **SAS training for these functions was:** | NA | ☐ ☐ ☐ ☐ ☐ | | |

Comments on SAS Message Management? Refer to functions by question number & use back of sheet for more space.

| *The following SAS functions were:* PLANS AND ORDERS | | *Useful?* ☹ ☺ | *Easy to Use?* ☹ ☺ | SAS better? ☹ ☺ |
|---|---|---|---|---|
| 21.Create Plans (Plan, Annex, Appendix, Overlay) | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 22.Create Orders (Opord, Frag O, Mov O, Wng O, COA) | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 23.Receive & View Plans and Orders | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 24.Forward Plans & Orders | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 25.Create Overlays | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 26.Object editing (select, drag, copy, paste etc.) | NA | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| **SAS training for these functions was?** | NA | ☐ ☐ ☐ ☐ ☐ | | |

Comments on SAS Plans and Orders? Refer to functions by question number & use back of sheet for more space.

# Final Exit Questionnaire — SAS User Trial

**Instructions:** This questionnaire covers SAS training and your experience with SAS over the whole exercise.

If you have not already done so, please complete a Personal Information sheet.

| Name / rank: | C/S: | Date: |
|---|---|---|

**Instructions:** Check Exercise Scenario(s) completed using SAS.:

Advance to contact ☐ Quick attack ☐ Defence ☐ Delay ☐ Pursuit ☐ Other ☐ _____

**Instructions:** 1: Please rate SAS use during this exercise.
2: Please compares SAS with the existing way of working.

| During these Exercises: | 1: SAS (Completely Disagree ☹ … Completely Agree ☺) | 2: SAS Better? (Completely Disagree ☹ … Completely Agree ☺) |
|---|---|---|
| 1. I fully tested the capability of all SAS features for: -System configuration | ☐ ☐ ☐ ☐ ☐ | NA |
| -Situation awareness map | ☐ ☐ ☐ ☐ ☐ | NA |
| -Message handling | ☐ ☐ ☐ ☐ ☐ | NA |
| -Plans and orders | ☐ ☐ ☐ ☐ ☐ | NA |
| 2. SAS provided all the information I needed to visualize the battlefield. | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 3. SAS kept me fully aware of the location of: -Units in my cbt tm | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| -Flank units | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| -Logistic support units | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| -Battle group HQ | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 4. SAS allowed me to be fully aware of friendly force: -capabilities / status | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 5. SAS allowed me to be fully aware of enemy force: -locations | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| -capabilities / status | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 6. SAS gave me complete control over the information I needed. | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 7. SAS provided me with too much information | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 8. SAS provided me with too little information | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 9. SAS displayed information in the way I needed | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 10. SAS readily allowed me to enter information / data | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 11. SAS message handling features were completely satisfactory | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 12. SAS plans and orders features were completely satisfactory | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 13. SAS reports, returns, and alert features were completely satisfactory | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 14. SAS let me detect battlefield changes about friendly units -quickly | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| -accurately | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| -completely | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 15. SAS let me understand battlefield changes about friendly units: -quickly | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| -accurately | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| -completely | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 16. SAS let me communicate: -quickly | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| -accurately | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| -completely | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 17. SAS helped me to make good decisions | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |
| 18. SAS helped me to make quick decisions. | ☐ ☐ ☐ ☐ ☐ | ☐ ☐ ☐ ☐ ☐ |

**Comments**

| | Write in your answers |
|---|---|
| *BENEFITS* The three biggest benefits of SAS see are: | 1. |
| | 2. |
| | 3. |
| *CONCERNS* My three biggest concerns with SAS are | 1. |
| | 2. |
| | 3. |

**Please rate the SAS training course you received.**

*If you did not attend the SAS training course, check this box ☐ and go to the next section.*

| | Completely Disagree ☹ ☐ ☐ ☐ ☐ ☐ ☺ Completely Agree | Any Comments? |
|---|---|---|
| 1. I felt completely ready to use SAS after the training. | ☐ ☐ ☐ ☐ ☐ | |
| 2. Training aids used during SAS course were easy to understand. | ☐ ☐ ☐ ☐ ☐ | |
| 3. The SAS training manual was easy to understand. | ☐ ☐ ☐ ☐ ☐ | |
| 4. There was enough hands on practice. | ☐ ☐ ☐ ☐ ☐ | |
| 5. I could readily relate SAS features to my army tasks. | ☐ ☐ ☐ ☐ ☐ | |
| 6. SAS training covered everything I needed. | ☐ ☐ ☐ ☐ ☐ | |
| 7. SAS training was long enough. | ☐ ☐ ☐ ☐ ☐ | |
| 8. Overall, I am satisfied with the training I received. | ☐ ☐ ☐ ☐ ☐ | |

***ny overall comments on SAS training?***

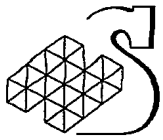
**Please rate SAS for HUMAN COMPUTER INTERFACE issues.**

| | Completely Disagree ☹ | | | | Completely Agree ☺ | Any Comments? |
|---|---|---|---|---|---|---|
| 1. I could read text easily. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 2. I could adjust screen brightness to suit my needs. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 3. SAS Icons (etc) were easy to understand. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 4. SAS was located conveniently in my CP / vehicle | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 5. On screen colours were meaningful. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 6. Menu terminology was easy to understand. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 7. I was able to select from menus easily. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 8. Information was arranged in a logical order. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 9. It was easy to move around in the SAS software. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 10. I could easily see the information I needed in each window. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 11. Text was easy to enter. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 12. Numbers were easy to enter. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 13. It was easy to edit information. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 14. The information I needed was easy to find. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 15. It was easy to move between screen fields. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 16. The windows I wanted were easy to call up. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 17. It was easy to know which window I was working on. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 18. It was easy to arrange windows on the screen. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 19. It was easy to operate SAS using only the keyboard. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 20. I could put the cursor where I wanted it. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 21. I always knew where the cursor was on the screen. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 22. It was easy to get to the "Help" function. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 23. SAS controls were always within easy reach | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 24. "Help" information was useful. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 25. SAS responded quickly enough to my commands. | ☐ | ☐ | ☐ | ☐ | ☐ | |
| 26. SAS use was always compatible with other tasks | ☐ | ☐ | ☐ | ☐ | ☐ | |
| **Any overall comments on SAS HCI or workstation configuration?** | | | | | | |

## ANY OTHER COMMENTS?

## Annex E (continued): Questionnaire Administration Guidelines

- The Observer Team should themselves complete all questionnaires as a group and agree on a common interpretation of the questions. This must be done so that the Team is prepared for administering the questionnaire (briefing and answering questions etc.)
- Each Observer Pair should brief participants on the intent of the questionnaire with particular attention to:
- The interchangeability of SAS and SAM
- The focus of each major heading e.g. what "Message Management" encompasses
- The differences between Useful, Easy to Use, and SAS Better
- Encouraging honest and constructive feedback
- Each Observer Pair should ensure participants understand the importance of the context of their SAS feedback i.e. which phase of the scenario (e.g. advance to contact, delay) and which sub-phases (e.g. preparing for the attack or actually conducting the attack). It is important that participants, understand and are able to differentiate these sub-phases when giving verbal or written feedback.
- Participants should be encouraged to ask any questions. Special attention should be paid to assisting French speaking participants with potential technical wording difficulties.
- Participants should be encouraged to write comments in boxes provided or on the back of the sheets.



# Annex F: Focus Group Guidelines

This Annex contains Exit Trial Questionnaires and Focus Group Guidelines

# Annex F (continued): Guidelines for Focus Groups and Interviews

Both interviews and focus groups are methods for eliciting information from people on a particular topic within a limited time. This requires a framework to make best use of the time available and to provide the interviewee or the focus group members with a clear idea of what is required. There also need to be ground rules to ensure that they feel free to speak, but not to ramble or indulge themselves too much with long war stories (fascinating though these may be).
Both approaches require preparation.

## Focus Groups

For this trial, two sorts of focus groups are envisaged.

- A main focus group at the end of the exercise with all trial participants present.
- A mini-focus group run as and when possible during the exercise – probably only once, at approximately the mid point of the trial. The mini-focus group would only comprise the members of one or other combat team, or battle group HQ, not the whole group of trial participants.

For the main exit focus group, the Trial Director should hold a formal coordination meeting of the observer teams to determine responsibilities and finalize format and facilities. Mini focus groups will be less rigorous and much shorter but should follow the same general pattern, as far as conditions permit.

## Facilities

The main exit focus group will require at least two hours and should be conducted under shelter and away from distractions. A class room environment would be ideal, though not essential. One observer should facilitate discussion while the other acts as a recorder taking down comments. A black or white board, and flip chart sheets tacked to a wall are a good way of recording comments, posting ground rules, etc.

## Format

Focus group format should combine SAM functionality with the exercise sequence to review users experiences while systematically using probe questions. Supplementary questions may arise as a result of observer experience during the exercise.

## Agenda

This can vary but should cover the following points.

- Welcome and introductions
- Goal
- Structure
  - Briefly review the structure and function of SAM.
  *(Post an outline as a cue for participants during discussions).*
  – Briefly review the exercise scenarios covered.
  – Highlight the probe questions that will be asked.
- Conduct the focus group
  – For each type of exercise scenario conducted step participants through the various stages of the scenario, and for each scenario stage prompt for comments on use of SAS functions. Allow some discussion, encourage everyone to speak, but maintain the pace.
- Consensus
  - Ask each member to write down the best three and worst three things about SAS, from their point of view. Then go around the group and write on a flip chart all of these items. There will probably be some consistency among the answers. Once this is done, take a vote to arrive at a consensus as to the three best and three worst. This approach is very subjective, but helps focus discussion and will often unearth significant insights.

## Ground rules

Any focus group should start with an outline of the ground rules. These rules are like brainstorming rules. The intention is to maximize participation and minimize any chilling effect resulting from judgmental or dismissive statements from authority figures. For instance, very senior officers or members of the SAM design team should not be permitted to participate during the focus group though observation and discussion with participants afterwards can be permitted. Focus group facilitators should balance the tendency of dominant personalities of any rank to take over the commentary by encouraging less dominant personalities to speak first. The idea is to get the ideas out and recorded. Judgement can come later. Have zero tolerance for statements that put down someone's comment. Instead try to understand what lies behind the comment. On the other hand, be disciplined about time. The tempo must be maintained or all the ground will not be covered. A common error is to have too much discussion early on during the focus group while everyone is fresh, and having to rush the later topics. Ban time consuming war stories.

## Interviews

During this trial, interviews will be need to be conducted ad hoc when time can be won from the exercise schedule. This time may be quite short, and broken. Opportunities are likely to occur at short notice. Be careful not to intrude on the military responsibilities. A positive personal rapport between interviewer and interviewee is very important. The interviewer must win over the interviewee(s) by showing genuine interest in their opinions and consideration for their priorities.

There is little point in conducting any interviews until trial participants have had experience with SAS. On the other hand, an interview conducted soon after a particular exercise scenario such as an advance to contact or quick attack, will mean that the experience is fresh in the interviewees mind.

The observers data sheet provides the framework for ad hoc interviews. Like the focus group, the goal is to provide a framework that will let the interviewee share their insight in a way that systematically covers the ground in a limited time. Lay out the ground rules, then listen, probe and record. Avoid giving your own opinion or judging their comments.

Review the interview data sheet. Systematically step the interviewee through their experience with SAS to date by exercise phase. Use the SAS function check list to prompt yourself and them about different features to confirm that they did or did not use them. Build further supplementary prompt questions as you go along, but be careful not to lead the interviewee or you are likely to get the answer he or she thinks you want.

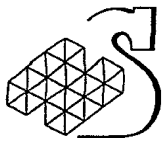
DO:

- Set up a mutually agreed understanding of when and where you can interview without getting in the way or interfering with their tasks.
- Brief the user on what it is that you are trying to achieve.
- Ensure the user knows that you are there to ask questions and record answers only (good or bad) and not to advocate or defend SAS.
- Ensure that the user know you are not evaluating any part of their own performance – only SAS.
- Ensure the user knows you are not a SAS assistant and are not there to help with SAS.
- Use the Interview data sheet.
- Ask neutral but specific contextual questions. (*Do not ask, "How did you like the map". Instead ask, "Did you use the map during the advance?", "Was the scale appropriate when advancing? Did you have to change the scale?", "What were the lighting conditions and did they affect the use of the map?", "Was there a problem (or benefit) with the map during the advance? How might an identified problem be fixed?" Avoid double barreled questions – these can be confusing.)*
- Ask users about their problems with SAS and about the benefits, potential or actual.

DON'T:

- Do not ask leading questions (*For example, do NOT say anything like: "The CO really seems to like function x, and what do you think about that? Really dumb eh!" Instead, ask something neutral and then probe for more "Why" insight? Then record the answers without comment. You are seeking data, not conclusions.)*
- Do not argue with users, instead probe until you clearly understand the root cause.
- Do not correct users or point out what they are doing wrong. Probe for a full explanation of the problem and what they think should be done to fix it.
- Do not defend the design or explain the problem away. (*For example, if a user says, "It's too slow", do not say, "Yes, we know about that and it is being fixed". Instead, ask, "Why", and, "How fast is fast enough" etc. Never dismiss any feedback.)*

All of the "DON'Ts" above are crucial to maintaining the flow of feedback. Violating any of them will serve to make the users "clam up" or worse yet give you data bias – the user may say the system is really good in hope that you will go away or really bad in an attempt to "get even".



# Annex G: Archival Data Capture

## Annex G: Archival Data Capture

SAM contains a number of automatic message logging and screen saving and archiving functions. These may be used to save data for subsequent baseline analyses. Examples include:

- plotting of message frequency by type, exercise phase and unit.
- Comparing task performance times (such as provision of requested reports and returns) using SAM with performance times taken on other occasions for similar tasks when not using SAM.

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